DOCUMENT RESUME

ED 240 356 CE 038 291

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TITLE The Limited Utility of Vocational Education: California Employers' Views.
INSTITUTION California Univ., Berkeley. Inst. of Governmental Studies.
PUB DATE Aug 83
NOTE 9p.
AVAILABLE FROM Institute of Governmental Studies, 109 Bernard Moses Hall, University of California, Berkeley, CA 94720.
PUB TYPE Reports - Research/Technical (143) -- Journal Articles (080)
JOURNAL CIT Public Affairs Report; v24 n4 Aug 1983

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Attitudes; *Educational Benefits; Educational Change; Educational Needs; *Employer Attitudes; Labor Market; Labor Needs; Outcomes of Education; *Relevance (Education); Secondary Education; State Surveys; Technological Advancement; *Vocational Education
IDENTIFIERS *California; Employer Surveys

ABSTRACT

A study examined the views of a sample of Los Angeles area employers concerning the utility of vocational education. During the study, researchers surveyed a group of employers from a predominantly nonwhite, relatively poor section of downtown Los Angeles and a group of employers from the fast-growing, affluent, predominantly white, planned industrial suburb of Torrence. The responses of the members of the two groups did not differ significantly from one another. As far as these employers were concerned, good working habits and positive attitudes are the most crucial elements to an employee's success on the job. Contrary to popular belief, the employers felt that recent technological changes have had little impact on the skills required to perform most entry-level jobs. The survey results suggest that, contrary to the claims of its advocates, vocational education confers few special advantages on applicants for entry-level jobs, with only one in five employees paying higher salaries to entry-level workers with vocational as opposed to academic backgrounds. Based on these findings, study recommendations called for reforming secondary vocational education, coordinating vocational programs with employer-based skill training, and paying more attention to the needs of small firms for specialized skill training. (MN)

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ED240356

Public Affairs Report

Bulletin of the
INSTITUTE OF GOVERNMENTAL STUDIES

EUGENE C. LEE, *Director*
HARRIET NATHAN, STANLEY SCOTT, *Editors*

UNIVERSITY OF CALIFORNIA, BERKELEY

Vol. 24 August 1983 No. 4

THE LIMITED UTILITY OF VOCATIONAL EDUCATION: CALIFORNIA EMPLOYERS' VIEWS

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Introduction

Vocational education has generally been considered inferior by mainstream educators, but recently it has also acquired a rather questionable new status. Many observers are proposing the use of vocational education to help reduce high unemployment, and to avoid anticipated shortfalls in the manpower needed to transform the United States from an industrial society into a high-technology information society. Thus a spokesman for the American Vocational Association pointed to demands for vocational education presumably related to advances in technology:

> Developing the skills of the American people remains one of the greatest challenges in our efforts to expand our defense capability. A $1.4 trillion investment in sophisticated machinery and weapons will not take care of our nation's defense needs if we do not have trained people to build and operate this equipment.[1]

Such rhetoric has been reinforced by recent policy decisions. President Reagan's 1982 job training initiative rests on the assumption that training in job skills can provide the missing link between the unemployed and unfilled jobs.[2] Under the same assumption, the California Commission on Industrial Innovation recently recommended that investments in high-technology vocational education be increased.[3]

Supporting such proposals is the rationale that the jobs created by advancements in technology call for specialized skills, and these are best taught in the public schools. This justifies public subsidies for vocational education on the assumption of dual benefits: first, to the individual who will have better job prospects and higher earnings, and second, to society, which will have a more productive workforce and a greater gross national product. An unspoken corollary is that, for many students, it is wasteful to spend time and money on non-vocational, academic schooling, beyond a basic foundation in the three Rs. Further, there is the idea that it would be better to concentrate public funds on training to give students practical and marketable skills, than to dissipate resources by attempting to give every student an academic or liberal arts education that might not prove useful in the job market.

This rationale, however, has been undermined by growing evidence that casts doubt on presumed links between technological advances and an increased demand for the higher-level job skills. Such links were thought to justify larger investments in vocational education. Moreover, there is also evidence that employers are less concerned about technical skills than about positive work habits and attitudes.

The Promise of Vocational Education

The claims being made for vocational education are not new. In the early twentieth century rapid industrialization led to the division and specialization of labor, to increase efficiency in industrial plants. Employers began looking to the public schools for graduates who were equipped to carry out specialized functions assigned in the workplace, and to exercise basic linguistic and computational abilities.[4] They also wanted young people like Horatio Alger's heroes, who were industrious, upright, and loyal.[5]

Their demands struck a responsive chord among progress-minded educators and social reformers of the time, who felt that the public schools, with their emphasis on classical education, had grown out of touch with the realities of urban-industrial life. Then as now, industrial or vocational education was offered as a solution. Because it was based on manual work, which was regarded by many theorists as the root of intellectual and moral growth, educators and reformers believed that vocational education would inculcate proper work attitudes and habits.[6] Further, they believed that tapping students' motivation to work and earn money would give purpose to their schooling, thereby changing their bore-

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ISSN 0033-3417

dom and disaffection to diligence, and reducing the alarmingly high dropout rates in public schools.[7] Most important, vocational education was seen as the best way of developing the technical job skills needed to operate and maintain modern plant equipment. In 1908, John Van Cleve, president of the National Association of Manufacturers said:

> The only way in which we can get this skill, in grade and in volume at all adequate to our demands, is to give industrial education to all our American boys, beginning in the lowest grades of our public primary schools and making it as free as the air and sunlight.[8]

In 1917 similar arguments supported passage of the Smith-Hughes Act, providing federal aid for vocational education. Belief in the effectiveness of vocational education grew. For example, a study of worker-distribution between 1870 and 1920 prompted conclusions that the skilled sector had grown more rapidly than the nonskilled sector, leading Arthur Mays to proclaim that technology and skill training had won out. According to Mays, the arguments advanced—by those who opposed modern plant operations because they were stifling and demeaning to the worker, or who questioned the social equity of training only some of the students for increasingly automated jobs—were "blown to shivers."[9]

Study of Los Angeles Area Employers and What They Seek in Employees

Today many people continue to accept the assumption that technological growth leads to creation of more skilled jobs and demand for a more highly skilled workforce. But is this assumption really justified? Even if technological advances do call for more specialized skills, are they best provided by vocational education programs in secondary and postsecondary institutions? Does vocational education actually confer the individual and social benefits its advocates claim? What skills and abilities do employers in fact value most in entry-level workers?

Answers to these and related questions were suggested by the writer's recent study of a representative sample of Los Angeles area employers.[10] The findings are useful in evaluating the relations between schools and employers, and in suggesting policies to improve the links.

Two sites were selected for the study: (1) downtown Los Angeles, with a predominantly nonwhite, relatively poor resident population, and a commuter workforce employed principally in nondurable manufacturing (chiefly apparel), and in services; and (2) Torrance, a fast-growing, affluent, predominantly white, planned industrial community, 17 miles southwest of the downtown area, where high-technology, durable manufacturing predominates.[11] The responses of downtown employers did not differ significantly from those of the Torrance employers, so the data from the two sites were combined for analysis.

Essentials of Job Success

A majority of employers (63 percent) regarded good work habits and positive attitudes as crucial to an employee's success on the job. These attributes—typically defined as "following the rules and working hard"—were considered especially important in entry-level jobs that require only a short vocational preparation time for the average worker to become productive. When asked to describe successful entry-level employees, 97 percent mentioned those who were hard-working and reliable, rather than those with special skills.

About one quarter of the respondents said that technical skills were the most important factor in job success for all jobs, and only 14 percent identified linguistic and computational ability as most important.

As Table 1 indicates, employers were most likely to consider technical skills essential to success in jobs that require more than two years of specific vocational preparation. This does not imply that good work habits and attitudes are not important for jobs requiring more specific vocational preparation, but rather that employees who occupy these jobs may already have the needed habits and attitudes, because of prior self-selection and socialization. Those in jobs requiring less specific vocational preparation probably have not yet been as finely screened or socialized.

When asked to indicate their reasons for rejecting job applicants, employers were most likely to mention bad attitudes, followed by lack of experience and poor job skills. Only 13 percent said that poor abilities in reading, writing, and arithmetic were the main reason for rejection.

Why is there such heavy emphasis on good work habits and positive attitudes? The most plausible explanation is that respondents were asked to name the "most important" factor in job success. To be of any value, employees must at least come to work regularly, punctually, and do what is expected of them. If they cannot even function at this basic level, their skills and literacy are unimportant. Yet this evidence also suggests that employers have difficulty finding workers who have these minimal qualifications.

Technology's Impact Limited

Contrary to popular belief, recent technological changes have had little impact on the skills required to perform most entry-level jobs. More than two-thirds (69 percent) of the interviewed employers reported no change in skill requirements, 22 percent said skill requirements had increased as a result of improved technology, and 9 percent said they had decreased.

The lower the job level the smaller technology's impact. Thus, changing technology had little impact on jobs in the "other" category (skilled, semiskilled, and unskilled workers, machine operators, and service workers) and only a slightly greater impact on clerical jobs. It had its greatest effect on professional, technical, managerial, and sales jobs, leading to an increase in skill requirements for about one-third (35 percent) of the jobs in this category, and to a decrease in skill requirements for about 15 percent of these jobs. Yet, even in this category, half of the jobs were not affected.

These findings partially confirm the results of an earlier study of the relationships among technological

TABLE 1

Most Important Factor in Job Success
by Duration of Specific Vocational Preparation (SVP)

	Low (up to 6 mo.)		Medium (6 mo. to 24 mo.)		High (24+ mo. to 120 mo.)		Mean	
	N	%	N	%	N	%	N	%
Good work habits & attitudes	50	75	42	64	13	38	105	63
Technical job skills	9	13	9	14	21	62	39	23
Linguistic & computational ability	8	12	15	22	0	0	23	14
Total	67	100%	66	100%	34	100%	167	100%

change, training, and employment in New York City. Edith Lynton found in her study that new technology did not create more jobs requiring advanced skills, into which lower-level employees could move after receiving further training. In some industries new technology actually created a larger number of lower-level jobs, thereby widening the gap between skilled and unskilled workers.[12]

Degrees and Credentials

Employers said they preferred to hire workers who have completed postsecondary training for 36 percent of the entry-level jobs they described, but that these credentials were *required* for only 9 percent. Employers were especially likely to prefer that applicants for professional-technical and clerical jobs have a postsecondary degree. In the case of the blue-collar and service jobs, employers preferred workers with work experience.

In the eyes of most employers, the chief value of educational credentials, especially postsecondary degrees, is to ensure that the applicant has good work habits and positive attitudes. (This finding is consistent with credentialing theories of Randall Collins and Gregory Squires.[13]) Only 8 percent of the respondents considered a high school diploma or associate degree (two years of college) helpful in establishing an applicant's literacy, and only 5 percent believed that educational credentials ensured an applicant's technical skills.

One in four of the employers interviewed said that educational credentials have no particular value. Among those respondents discussing entry-level jobs that do not require educational credentials, the proportion was even higher.

Views of Vocational vs. Academic Education

The survey results suggest that contrary to the claims of advocates, vocational education confers few special advantages on applicants for entry-level jobs. Asked whether they preferred applicants with vocational or academic background, only 17 percent of the employers interviewed favored those with a vocational background. Nearly half (49 percent) of the employers had no preference, while 34 percent preferred applicants who had been enrolled in academic curricula.

Among the minority of employers (17 percent) who favored vocational over academic backgrounds, this preference tended to increase in the higher job levels (those requiring longer specific vocational preparation). Thus, employers preferred vocational preparation for (1) 30 percent of the professional-technical jobs (with most preferring vocational education obtained in postsecondary schools); (2) 16 percent of the clerical jobs; and (3) 7 percent of the blue-collar and service jobs.

Limited Salary Advantage for Vocational Education

Only about one in five employers (21 percent) said they paid higher salaries to entry-level workers with vocational education background than to those with academic backgrounds. Vocational graduates were likely to be paid more if they were employed by large firms in professional-technical jobs requiring a postsecondary degree.

The finding that vocational education graduates lack a significant competitive edge in the marketplace is consistent with a growing body of other research. A comprehensive study of the economic returns of vocational education at the secondary level did not reveal a wage advantage for vocational education graduates, with the exception of black women who had been enrolled in office/clerical curricula.[14] Moreover, after reviewing the literature on secondary vocational education, Sue E. Berryman concluded that verbal and mathematical ability are more closely related to later earnings than are specific vocational skills.[15] Similarly, a four-state comparison revealed that graduates of vocational education programs in community colleges in only one state earned more than nongraduates, and the salary difference was slight.[16] Finally, a previous study by the writer found that most who graduate from prestigious postsecondary vocational education programs earn no more than program dropouts.[17] In short, compared to other curricula, vocational education programs, particularly at the secondary school level, appear to have only a limited economic payoff.

Training Practices

More than two-thirds of the employers surveyed did most of their own training for entry-level jobs, usually on the grounds that their operations were unique and no outside agency could provide suitable training. Only 7 percent of the firms did none of their own training. Employees in lower-level jobs with relatively short preparation time were more likely to be trained on-the-job than those in higher-level jobs requiring a greater amount of specific vocational preparation.

This finding parallels Seymour Lusterman's conclusion that most large firms want entry-level workers who are literate and trainable, preferring to do most of the skill training themselves.[18]

Recruitment Practices

More than three-fourths (77 percent) of the firms filled jobs as they opened rather than planning their manpower needs in advance. Large firms and those with seasonal needs were most likely to plan in advance.

Employers most frequently relied on informal sources to fill job vacancies. They depended on referrals from current employees, local advertising, walk-ins, and transfers within the firm. Mostly larger firms (overall only 10 to 14 percent of the respondents) frequently used employment agencies, community colleges, or vocational schools. Fewer than 10 percent made frequent use of regional occupational centers, CETA programs, high schools, four-year colleges, unions, or national advertising.

Of those employers who recruited prospective workers from educational institutions, 62 percent used only one school or program, and 84 percent no more than two schools or programs. The employers said they recruited from particular schools or programs because they were close by, they screened candidates well, or they were the only schools or programs available.

Although three out of five respondents anticipated future shortages of entry-level employees, none mentioned schools as potential sources. Instead, they planned to increase recruitment efforts or to do more of their own training.

Strengthening Links With Schools to Improve the Supply of Employees

Only one in four firms were working with the schools to improve their supply of employees, and most respondents acknowledged that linkages with schools could be strengthened. Large firms were most likely to work with schools, whereas almost two-thirds of the medium-size firms and one-half of the small firms, although willing to work with schools, said they had not been asked.

In response to questions about what the schools should do to make young people more employable, employers said most frequently that teaching the three Rs and developing students' pride and self-discipline should be higher priorities.

Limitations of the Study

In drawing conclusions from this study it is important to be aware of its limitations. The interview questions involved entry-level jobs that require less than four years of college, but for which training is an important consideration. Most of the jobs selected for discussion were low-level (clerical, blue-collar, and service occupations). Moreover, only 9 percent required a postsecondary credential, and only 19 percent required two years or more of specific vocational preparation. If the interviews had focused on higher-level jobs, the results might have been different.

Study Findings vs. Assumptions

Given these limitations, the findings nonetheless bear on current policy discussions concerning the wisdom of increasing public subsidies to vocational educational programs, especially specialized skill training at the secondary level. Moreover, the results of the downtown Los Angeles interviews were essentially the same as those of the Torrance interviews, thus increasing confidence in their reliability.

The findings contradict the widespread belief that technological advances create jobs that call for more specialized skills, and thus greatly expand opportunities for the more highly skilled worker. Instead, the study indicates that, at least in the short run, technological change has little impact on the skill requirements for entry-level jobs.

Contrary to the claims of advocates, most employers are not particularly eager to hire vocational education graduates, or to pay them higher salaries than other workers. To the extent that they voice a preference for entry-level clerical, blue-collar, and service jobs, employers tend to favor applicants with academic rather than vocational education background.

Far from placing a premium on technical skills, most employers regard good work habits and positive attitudes as essential to job success. They tend to see educational credentials as valuable only insofar as they help to ensure that applicants have these attributes. Thus they usually prefer to develop job skills informally through on-the-job training, and they expect the schools to inculcate proper work habits and attitudes. Finally, although most firms, especially the small and medium-size, express willingness to work more closely with schools, they rely on informal rather than institutional sources of manpower supply.

Why do the assumptions outlined above persist, in the face of accumulating evidence that skill training by itself is neither a necessary link between technology and employment, nor an effective solution to the problem of youth unemployment? One explanation is that despite changes in our value system, most Americans still believe that hard work and individual effort pay off.[19] Since vocational education has long been promoted as a way for young people to pull themselves up by their own bootstraps and compete successfully in the labor market, it is seen as a confirmation of these values. Similarly, the widespread belief in the usefulness of skill training is probably bolstered by what Berenice Fisher called "the ideal of the skilled workman," the vision from an earlier era that all workers are craftsmen who derive social status, self-respect, and independence from their job skills.[20] Finally, policies that support publicly subsidized training as a solution to various social problems are politically safe and usually popular because they take nothing away from powerful political constituents. Instead, funding training programs brings money into the community and adds to local resources.[21]

The findings of this study cast doubt on the general validity of the assumptions, but also suggest that demand for skill training does exist in some highly specific circumstances. Nevertheless this demand could probably be met more efficiently through better use of the resources of existing educational institutions.

Three Recommendations for the Future

The occupational structure in the US is clearly changing. As durable manufacturing and farming give way to

high-tech, energy, genetics, and information industries, new jobs will be created, some existing jobs will be eliminated, and other jobs will become more complex. Change will probably be greatest in the upper-level jobs typically filled by the graduates of four-year college programs.

While the demand for skilled workers may grow steadily, most occupational growth is expected in low-level clerical and service occupations requiring a short period of training, mostly done on the job.[22] Businesses, dependent upon profit to survive, want an efficient workforce composed of employees who come to work regularly, who are on time, and who do what is expected of them. Thus, they will continue to expect the schools to supply them with graduates with positive attitudes and good work habits to fill entry-level positions.[23]

Resources for education and training will almost certainly continue to shrink, making it imperative that both educational institutions and employers define their needs and purposes more clearly to ensure the most effective allocation and use of public education and training resources. The following three recommendations should help to achieve these objectives.

1. Secondary vocational education should be reformed. Except for some widely used skills such as typing and use of microcomputers, which can best be taught in the classroom, there is little demand for skill training. Therefore, secondary vocational education should change its purpose and structure to respond to contemporary needs.

Vocational education should derive renewed purpose from its roots in nineteenth century "manual training," which sought to bridge the age-old divisions between theory and practice. The theory behind manual training considered the shop experience a vehicle to provoke the student's interest in how the larger world worked. Drafting, woodcutting, and machine shop experience was designed to lead the student from practice to generalization and abstraction. In short, the shop experience was education. In the early 1900s, however, as vocational education replaced manual training, the shop experience became a way to use skill training to fit the nonacademic student into entry-level employment. Consequently, vocational education has evolved in the public schools mostly as low-level skill training, frequently as a substitute for education.

Although manual training failed to establish itself firmly enough to survive, the results of a number of recent experimental programs suggest that the theory on which it was based may hold new meaning for high schools today. For example, The Richmond Plan, developed in the early 1960s and named after its host high school in Richmond, California, was designed to motivate underachieving youngsters and to promote their cognitive growth through application. Students learned English, physics, drafting, and algebra by working with mechanisms that interested them, such as internal combustion engines and cameras. Students in the program showed marked improvement over a control group in attendance, grades, personal growth, and career goals.[24]

Experiments growing out of Career Education, a recent attempt to broaden vocational education, underscore the importance of integrating outside experience with classroom work. The success of the Career Intern Program, financed by the National Institute of Education, suggested that personal development and academic performance can be dramatically improved through carefully designed experiences that foster students' sense of competence and control over their own lives. More recently, evaluations of the Experience Based Career Education model emphasized the central importance of experience and activity in education.[25]

2. Employer-based skill training programs should be created. Vocational training should focus more clearly on the needs and demands of specific firms and occupations. Linking specific skill training to employer demands would reduce the training institutions' need to develop and maintain programs that have little to do with actual labor-market conditions.

In an embryonic model in the Los Angeles Community College District's centers for high technology, local employers collaborate actively to design programs integrating conceptual learning with hands-on training. This model takes into account employers' need for workers with positive attitudes by selecting for more advanced skill training employees who have already proven on-the-job that they have those qualities.

The state has recently recognized the importance of basing skill training on employers' needs. California legislation earmarked funds to stimulate the active collaboration of employers by establishing business and labor councils to help make these connections. Although such councils have only been advisory in the past, the new councils are expected to influence the schools considerably by controlling the allocation of program funds.

Though often overlooked in public policy formulation, *proprietary* (fee-charging) schools are important providers of vocational training at the postsecondary level.[26] These schools are outside the formal public school structure and concentrate their resources almost exclusively on job training. Proprietary schools number more than 5,000 in the US, and train nearly three-quarters of all postsecondary vocational students. Evidence suggests that the schools' motivation to earn a return on their investment prompts them to do a more effective job of reaching low-income minority students than the public community colleges do. They also reshape their programs often to conform to changing labor market needs.

Furthermore, studies indicate that proprietary students, perhaps because they have an investment in their own training, are more likely to complete their programs than students who choose public schools. Proprietary schools have economic incentives to reduce students' time in school, and their programs take only about half as much time to complete as comparable programs in public schools. Proprietary school students can thus move from school to employment more quickly. The available evidence also suggests that proprietary students' placement rates and earnings compare favorably with those of public school students.[27]

3. More attention should be paid to the needs of small firms for specialized skill training. The findings of this study suggest that most small firms rely very little on schools and other institutional sources of supply for skilled workers, probably because they consider their

needs to be too limited and specialized to warrant seeking outside help for training. But at the same time these firms often have difficulty finding employees with needed skills and qualifications, chiefly because they cannot afford to divert attention from running their businesses to seek out new sources of supply.

Small businesses are a vital segment of the US economy, employing nearly half of the nation's workforce and providing 86 percent of the new private-sector jobs;[28] the special needs of small firms deserve careful attention. Local private industry and education councils could be established to identify the training needs of small businesses. Appropriate training programs could be developed and funded by consortia of providers, including proprietary vocational schools, regional occupational centers, community colleges, and other community-based organizations.

Conclusion

In conclusion, this study casts doubt on the persistent assumptions that technological advances require higher order skill in entry-level jobs, thereby increasing demands for vocational education. At least in the short run, in most of the firms studied, entry-level jobs were unaffected by technology because the employers themselves frequently do most of their own training. Except for the minority of firms whose entry-level jobs required extensive technical training, most employers were not particularly interested in job applicants' technical job skills. Instead, employers were most concerned with whether applicants had positive work habits and attitudes.

These findings suggest that high schools should reduce their emphasis on skill training, which is frequently substituted for education, and concentrate instead on teaching young people to read, write, compute, and think. To the extent that employers want job training, it probably should be provided *in addition to* a sound elementary and secondary education. The training should be developed on the basis of actual employer demand, and offered by a variety of institutions, including proprietary vocational schools, community-based organizations, community colleges, and regional occupational centers.

NOTES

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The author wishes to thank Bruce Fuller, Douglas Higgins, John McNeil, and Deborah Stipek for review drafts of this report, and Laura Kent for her editing.

This study was financed by the US Department of Labor and cosponsored by the Los Angeles Chamber of Commerce.

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11. The sample for the study comprised 172 firms, classified according to size: 32 percent were small, employing fewer than 50 people; 41 percent were medium size, with 50 to 499 employees; and 28 percent were large, with 500 or more employees (total more than 100 percent due to rounding).

Interviews were conducted with the chief employment and training officer of each firm, who was asked to identify one entry-level job requiring less than four years of college for which training was an important consideration. The interview was then conducted in reference to that job, which was described in terms of three variables:

1. US Census occupational classification:
   - professional, technical, managerial, and sales (27 percent);
   - clerical (41 percent); and
   - "other" including skilled, semiskilled, and unskilled workers, operatives (or machine operators), and service workers (32 percent).
2. Minimum requirements for hiring:
   - less than a high school diploma (34 percent);
   - work experience only (19 percent);
   - high school diploma (34 percent); and
   - postsecondary credential (9 percent).
3. Specific vocational preparation (does not include a small number of multiple responses) (SVP): or the amount of time required for the average worker to become productive in a specific job:
   - low (up to six months) (40 percent);
   - medium (from six months to two years) (40 percent); and
   - high (from two to 10 years) (19 percent).

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28. Report of the President, *Minority Business Today*, a publication of the US Department of Commerce (Washington, D.C.: June 1982), p. 3.

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Public Affairs Report

Vol. 24 August 1983 No. 4

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